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ARTICLE

The impact of combat stress on the coping strategies selected by mobilized military personnel with differing family statuses

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Abstract: Since February 24, 2022, military personnel of the Ukrainian Defense Forces have been resisting the military aggression of the Russian Federation. The fighting and the mobilization of men for military service complicated the well-being of Ukrainian families. The purpose of the article is to identify the relationship between the choice of coping strategies and post-traumatic stress disorder (PTSD) and maladaptation indicators in married and unmarried mobilized military personnel. Ukrainian Defense Forces military personnel (n=171 males, between 20 and 60 years of age) took part in this study. The "Strategic Approach to Coping Scale", "Mississippi Scale for Combat-Related Posttraumatic Stress Disorder", and "Disadaptation Express Questionnaire" were used. Correlation and exploratory factor analysis made it possible to identify the structure of coping strategies in mobilized servicemen with different family statuses and to determine the relationships between coping strategies, PTSD, and maladaptation indicators. The pre-war experience of using coping strategies by married and unmarried mobilized military personnel was not a sufficient barrier to the emergence of PTSD symptoms and maladaptation manifestations. Married and unmarried mobilized servicemen had a deficit structure of coping strategies characteristic of war.

Keywords: military personnel; coping strategies; PTSD; family; combat stress; mental health; mobilized soldiers; Russian-Ukrainian war

INTRODUCTION

The large-scale war in Ukraine, which began on 24.02.2022, has exacerbated the problem of mobilizing civilians and preparing military personnel to participate in hostilities to protect the sovereignty and lives of Ukrainians [1]. However, mobilization for military service has also complicated the well-being of families, who are forced to overcome problems arising from threats to the health and lives of family members, changes in family lifestyle, and everyday difficulties on their own, without men/women. This was also due to military actions on the territory of the country: experiencing threats of air raids, loss of housing, forced displacement, distance learning for children and their permanent stay at home, remote work or its absence, etc. [2,3]. These circumstances were factors that destroyed families, as well as additional stress for military personnel who, while defending their country, cannot protect and preserve their families.

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Coping with potentially traumatic situations, including combat stress, involves the use of coping mechanisms and stress management strategies [4]. One of the models of stress management is the "Multiaxial Model of Coping", which comprises three axes: active–passive, prosocial–antisocial, and direct–indirect [5]. These axes represent dimensions of general coping strategies that allow for broader application across individualistic and collectivist cultures. The model assumes that active and avoidant strategies are not socially indifferent, and ignoring this fact may lead to a misinterpretation of their effects [6]. Prosocial coping involves strategies that positively utilize social resources. Antisocial coping includes behaviors that, while

satisfying the individual's needs, can be detrimental to others [7]. Aggressive coping is also effective as long as it does not become outright antisocial. Antisocial coping does not denote psychopathological behaviors, but rather coping methods that can be potentially harmful to others, involving the use of others or even exploiting them for personal gain [8].

Research has detailed the negative impact of combat deployments on service members and their families, the devastating effects of maladaptation and post-traumatic stress disorder (PTSD) symptoms on families, including violence against spouses and children [9,10]. PTSD couples reported clinically significant levels of relationship distress several times more frequently than comparison couples, both for general distress and across all specific problem areas (e.g., aggressive behavior, quality of leisure time together, sexual functioning, conflicts about finances and child rearing) [11]. Another study found that greater unit support, marital satisfaction, and psychological hardiness were associated with less anger, anxiety, depression, and PTSD symptomatology in soldiers [12]. The positive effects of intimate partner [13] and unit support reduced negative emotionality and traumatic stress only for veterans with less severe combat experiences [14].

However, the conducted studies did not examine the features of PTSD manifestations and maladaptation to the choice of coping strategies of mobilized servicemen with different family statuses. For such people, military service was not their own choice, and they were forced to adapt their civilian traumatic experience to overcome the effects of combat stressors and wartime stress factors.

The purpose of the article was to identify the relationship between the choice of coping strategies and indicators of post-traumatic stress disorder and maladaptation in married and unmarried mobilized military personnel.

MATERIALS AND METHODS

Study design and participants

This study was an exploratory descriptive study. All participants provided their informed consent for inclusion before engaging in the study. Ukrainian Defense Forces military personnel (n=171 males, aged 20 to 60 years, with a mean age of 41.84±6.49 years) participated in this study. The participants included 71% privates and 29% non-commissioned officers, all of whom participated in the Russian-Ukrainian war and had combat experience ranging from 6 to 10 months (8.75±2.58 months). Before the war, 62% of the participants had urban origins, while 38% had rural origins; 24% had completed secondary education, 57% had completed secondary specialized education, and 19% had attained higher education. The military personnel were sent to the rehabilitation center from combat positions to partake in a psychological recovery program lasting 14 days [15]. Two groups were formed to conduct the study: group 1 included 76 unmarried participants, while group 2 consisted of 95 married mobilized military personnel. The participants were identified based on various manifestations of acute stress reactions, significant negative experiences—including signs of depression and suicidal ideation—presence of PTSD symptoms, sleep problems (more than 50%), somatic complaints (more than 80%), and wounds and contusions (more than 75%); they also faced difficulties in returning to combat missions due to the consequences of illness, injury, and wounds. Female military personnel were excluded from this study because less than 0.5% of female combatants participated throughout the program period. Officers were also not included in the study due to their small number in the psychological recovery program (less than 1%). Participants were randomly selected for the study.

Ethical approval

The study was conducted in accordance with the Declaration of Helsinki and was approved by the Institutional Ethics Committee of the National Academy of the National Guard of Ukraine, Kharkiv, Ukraine (protocol code 2024/12, dated September 24, 2024).

Instruments

To determine the relationship between the choice of coping strategies and indicators of PTSD and maladaptation in mobilized military personnel, the "Strategic Approach to Coping Scale" (SACS), "Mississippi Scale for Combat-Related Posttraumatic Stress Disorder" (MSCRPTSD), and "Disadaptation Express Questionnaire" (DEQ) were used.

The SACS was used to determine coping strategies and behavior patterns of military personnel to overcome stressful situations, adapted into Ukrainian [16,17]. The SACS consists of 54 statements, the answers to which were given on a 5-point Likert scale (Cronbach's $\alpha = 0.846$). The scale allowed for the choice of coping strategies (behavior models) such as "Assertive Actions" (Cronbach's $\alpha = 0.627$), "Social Joining" (Cronbach's $\alpha = 0.736$), "Seeking Social Support" (Cronbach's $\alpha = 0.746$), "Cautious Actions" (Cronbach's $\alpha = 0.676$), "Instinctive Actions" (Cronbach's $\alpha = 0.691$), "Avoidance" (Cronbach's $\alpha = 0.669$), "Indirect Actions" (Cronbach's $\alpha = 0.654$), "Antisocial Actions" (Cronbach's $\alpha = 0.687$), and "Aggressive Actions" (Cronbach's $\alpha = 0.724$). The results were analyzed by comparing the data on the degree of expression (low, medium, high) of a specific person's coping behavior for each subscale with the average values of the coping stress models.

The MSCRPTSD [18] was used to diagnose PTSD in military personnel on missions in the war zone, adapted into Ukrainian [17, 19]. The scale consists of 35 statements (4 subsets), the answers to which were given on a 5-point Likert scale (Cronbach's $\alpha = 0.88$). Subset 1 (11 statements) describes the symptoms of the "intrusion" group when the traumatic event is constantly repeated in the experience in one (or more) ways. Subset 2 (11 statements) relates to the symptoms of the "avoidance" group when there is a constant avoidance

of stimuli associated with trauma, blocking of emotional reactions, and numbness, which was not observed before the trauma. Subset 3 (8 statements) describes the symptoms of "excitability" when persistent symptoms of arousal increase that were not observed before the injury. Subset 4 (5 statements) describes symptoms associated with guilt and suicidal tendencies. Despite the grouping of statements into 4 subsets, one general indicator was calculated taking into account the conversion of the answer into a score for direct and inverse statements, reflecting the severity of PTSD symptoms (range from 35 to 175 points, where 35-80 points is a variant of the norm; 81-114 points - separate symptoms of PTSD; 115-175 points - clinical manifestations of PTSD, a psychiatric examination and inpatient examination were recommended).

The DEQ was used to identify signs of a violation of the adaptability of the soldier's personality: violation of the regulatory function of the emotional-volitional sphere and self-esteem; lack of prospects for continuing life and the ability to overcome life's difficulties (probability of committing suicidal attempts); loss of moral convictions, the likelihood of committing addictive and delinquent acts; loss of communicative potential (comradely support, reduced ability to accept the help of one's team) [19]. The DEQ consists of 45 statements included in 5 subscales (Cronbach's $\alpha = 0.848$): "Sincerity of answers" (Cronbach's $\alpha = 0.719$), "Violation of behavioral regulation" (Cronbach's $\alpha = 0.736$), "Probability of committing suicide attempts" (Cronbach's $\alpha = 0.743$), "Violation of moral normativity" (Cronbach's $\alpha = 0.702$), and "Loss of communicative potential" (Cronbach's $\alpha = 0.709$). Each positive response was worth 1 point, and each negative 0 points. The overall DEQ scale was calculated as the sum of scores on 4 scales (values on the "Sincerity of answers" scale were not included). The results of the overall DEQ scale were evaluated as follows: 1-10 points - high adaptation to combat operations, sufficient tolerance to adverse mental and physical stress, including under conditions of severe combat stress; 11-14 points - average adaptation, unstable level of performance, especially in combat conditions; 15 points or more - low adaptation (distress and adjustment disorders) that does not meet the requirements for soldiers in combat conditions.

Information on the implementation of a formal translation or back-translation protocol for SACS, MSCR-PTSD, and DEQ is unavailable. The authors of the article did not pilot test or validate the design of the psychodiagnostic instrument used in this study; we used data from the aforementioned Ukrainian sources. We are not aware of any published or internal references that describe the psychometric properties of the Ukrainian versions of these instruments in detail.

Statistical Analysis

The study was conducted in two stages. At the first stage, the use of correlation analysis allowed us to determine the relationships between the indicators of coping strategies, PTSD, and maladaptation in unmarried (group 1) and married (group 2) participants. At the second stage of the study, the indicators of coping strategies, PTSD, and maladaptation were compared in two participant groups. For the data presented, basic descriptive statistics were used (arithmetical mean M, standard deviation SD). The reliability of differences in the results of the mean values in two interrelated groups was determined using Student's t-test. For the assessment of the statistical significance of differences, we used the level of significance from $p = 0.05$ to $p = 0.001$. No correction for multiple comparisons was applied.

Exploratory factor analysis was used to determine the structure of coping strategies in each participant's group. Exploratory factor analysis of matrices was carried out using the extraction method (principal component analysis) and the rotation method (Varimax with Kaiser normalization). We did not perform the Kaiser-Meyer-Olkin (KMO) statistic and Bartlett's test of sphericity for each group. Correlation analysis allowed us to determine the relationships between the identified factors in married and unmarried participants. The study results were statistically analyzed using SPSS 22.0 (IBM, Armonk, NY, USA).

RESULTS

Tables 1–2 present the results of the correlation relationship between the indicators SACS, MSCRPTSD, and DEQ scales by the group 1 and group 2 participants.

Table 3 presents the results of the coping strategies by the group 1 and group 2 participants.

Tables 4–5 present the exploratory factor analysis results of the coping strategies structure by the group 1 and group 2 participants.

Tables 6–7 present the correlation results between the factor structure of coping strategies and indicators of PTSD and maladaptation by the group 1 and group 2 participants.

Table 1: Correlation relationship indicators between the SACS, MSCRPTSD, and DEQ scales by the group 1 participants

Scale name	SACS								
	Assertive Actions	Social Joining	Seeking Social Support	Cautious Actions	Instinctive Action	Avoidance	Indirect Action	Antisocial Actions	Aggressive Actions
MSCRPTSD									
General indicator of PTSD	-0.10	-0.30**	-0.19	0.01	0.19	0.16	0.17	0.21	0.58**
DEQ									
Sincerity of answers	-0.02	0.06	0.03	0.21	0.06	-0.02	0.23	0.12	0.37**
Disruption of behavioral regulation	-0.13	-0.16	-0.14	0.12	0.27*	0.29**	0.25*	0.13	0.50**
The likelihood of committing suicide attempts	-0.15	-0.15	-0.18	0.09	0.30**	0.18	0.17	0.18	0.51**
Violation of moral norms	-0.08	-0.12	-0.19	0.12	0.18	0.18	0.26*	0.26*	0.36**
Loss of communicative potential	-0.07	-0.19	-0.12	0.15	0.17	0.20	0.30**	0.11	0.43**
General indicator of maladaptation	-0.13	-0.19	-0.18	0.14	0.28*	0.26*	0.28*	0.19	0.53**

*Note. *p = 0.05, **p = 0.01*

Table 2: Correlation relationship indicators between the SACS, MSCRPTSD, and DEQ scales by the group 2 participants

Scale name	SACS								
	Assertive actions	Social joining	Seeking social support	Cautious actions	Instinctive actions	Avoidance	Indirect actions	Antisocial actions	Aggressive actions
MSCRPTSD									
General indicator of PTSD	-0.42**	-0.31**	-0.24*	-0.10	-0.06	0.09	0.03	-0.02	0.42**
DEQ									
Sincerity of answers	-0.21*	-0.13	-0.16	-0.01	-0.20*	0.12	0.21*	0.09	0.14
Disruption of behavioral regulation	-0.40**	-0.27**	-0.29**	-0.10	-0.05	0.11	0.08	0.03	0.35**
The likelihood of committing suicide attempts	-0.34**	-0.30**	-0.34**	-0.06	-0.12	0.07	0.05	-0.02	0.31**
Violation of moral norms	-0.29**	-0.19	-0.28**	-0.05	-0.01	0.18	0.15	0.13	0.26*
Loss of communicative potential	-0.38**	-0.26**	-0.33**	0.02	-0.14	0.03	0.11	0.13	0.35**
General indicator of maladaptation	-0.43**	-0.31**	-0.38**	-0.06	-0.09	0.12	0.11	0.08	0.39**

*Note. *p = 0.05, **p = 0.01*

Table 3: Coping strategies indicators by the group 1 and group 2 participants (points, Student's t-test, Cohen's d)

Coping strategies name	Group 1	Group 1	t	p	d
Assertive actions	19.82±3.01	20.32±3.52	1.00	0.32	0.15
Social joining	21.96±4.86	23.56±4.66	2.17	0.03	0.34
Seeking social support	21.12±5.09	23.00±5.30	2.36	0.02	0.36
Cautious actions	21.34±4.08	21.80±4.19	0.72	0.46	0.12
Instinctive actions	18.47±3.66	18.61±3.47	0.25	0.74	0.05
Avoidance	17.14±3.99	16.89±4.36	0.39	0.73	0.05
Indirect actions	17.01±4.35	17.74±4.33	1.08	0.29	0.16
Antisocial actions	15.01±4.66	14.55±3.73	0.71	0.47	0.11
Aggressive actions	17.49±4.99	16.03±5.18	1.86	0.05	0.29

Table 4: Factor structure of coping strategies by the group 1 participants

Coping strategies name	Factors		
	1 (33.98%)	2 (24.92%)	3 (11.97%)
Assertive actions	0.393	0.047	0.776
Social joining	0.807	-0.058	0.210
Seeking social support	0.904	-0.040	-0.009
Cautious actions	0.755	0.226	0.032
Avoidance	0.481	0.359	-0.602
Indirect actions	0.167	0.862	0.107
Antisocial actions	-0.012	0.865	-0.018
Aggressive actions	-0.016	0.655	-0.281

Table 5: Factor structure of coping strategies by the group 2 participants

Coping strategies name	Factors		
	1 (31.61%)	2 (24.43%)	3 (13.40%)
Assertive actions	0.651	0.169	0.062
Social joining	0.812	-0.126	-0.172
Seeking social support	0.829	-0.238	0.095
Instinctive actions	0.167	0.154	0.815
Avoidance	-0.162	0.151	0.798
Indirect actions	0.013	0.874	0.178
Antisocial actions	-0.121	0.846	0.145

Table 6: The correlation relationship indicators between the factor structure of coping strategies and the scales MSCRPTSD and DEQ by the group 1 participants

Factors name	PTSD and maladaptation indicators					
	General indicator of PTSD	Disruption of behavioral regulation	Likelihood of committing suicide attempts	Violation of moral norms	Loss of communicative potential	General indicator of maladaptation
Factor 1 “Limited search for socially significant assistance”	-0.18	-0.06	-0.11	-0.09	-0.06	-0.09
Factor 2 “Destructive methods of gaining an advantage over others”	0.38**	0.36**	0.34**	0.37**	0.35**	0.41**
Factor 3 “Self-affirmation as a demonstration of decent behavior”	-0.21	-0.28*	-0.24*	-0.13	-0.17	-0.25*

*Note. *p = 0.05, **p = 0.01*

Table 7: The correlation relationship indicators between the factor structure of coping strategies and the scales MSCRPTSD and DEQ by the group 2 participants

Factors name	PTSD and maladaptation indicators					
	General indicator of PTSD	Disruption of behavioral regulation	Likelihood of committing suicide attempts	Violation of moral norms	Loss of communicative potential	General indicator of maladaptation
Factor 1 “Socially significant methods of attracting external resources”	-0.37**	-0.34**	-0.35**	-0.26*	-0.36**	-0.41**
Factor 2 “Socially inconsistent methods of attracting external resources”	0.01	0.09	0.07	0.19	0.19	0.16
Factor 3 “Uncertainty in one’s resources and careful attitude towards them”	0.10	0.12	0.06	0.14	-0.04	0.08

*Note. *p = 0.05, **p = 0.01*

DISCUSSION

At the first stage of the study, the use of correlation analysis allowed us to determine the relationships between coping strategies and indicators of PTSD, maladaptation in mobilized military personnel with different family statuses. Thus, productive coping "Assertive actions" ($p = 0.01$), "Social joining" ($p = 0.01$), and "Seeking social support" ($p = 0.01$) were associated with lower indicators of PTSD and maladaptation only in married participants (group 2). Such unproductive coping as "Instinctive actions" ($p = 0.05$), "Avoidance" ($p = 0.05$), "Indirect actions" ($p = 0.05$), "Antisocial actions" ($p = 0.05$) had relationships with the indicators of PTSD and maladaptation only in unmarried participants (group 1). The coping "Aggressive actions" ($p = 0.01$) was interrelated with the PTSD and maladaptation indicators in both groups of participants. The obtained results allow us to assume that such civilian experience as life in marriage influenced some features of the choice of coping strategies that determine the ability of mobilized servicemen to withstand combat stress factors. Similar studies showed that problem-solving coping reduced PTSD symptoms, while coping strategies aimed at avoiding stressful situations increased them [20]. Our results showed that this relationship is also be influenced by the family status of a serviceman.

As previously noted, social relationships such as intimate partners and military unit support reduced PTSD symptoms and negative emotionality and had a positive impact on military personnel's well-being [14]. In our study, we assumed the possibility of other variants of these relationships: the maladaptation indicators could have been by receiving specific social assistance ("Seeking social support"), and the symptoms of PTSD were could reduced while maintaining or restoring the ability to engage in general activity ("Social joining"). We found that in group 2, the indicators of choosing such coping strategies as "Social joining" and "Seeking social support" were the highest among all coping strategies, and they differed from the indicators of group 1 ($p = 0.05$ for both values).

In the second stage of the study, exploratory factor analysis and correlation analysis were used to identify the tentative structure of coping strategies among mobilized military personnel with different family statuses, as well as to determine the relationship between coping strategies and indicators of PTSD and maladaptation.

In group 1, the identified tentative three-factor structure of coping strategies described 70.72% of the variance of features. The factor 1 content was determined by the coping strategies "Seeking social support," "Social joining," and "Cautious actions." This factor was associated with the involvement of additional external resources. Perhaps, when asking for assistance, the group 1 participants were afraid of making a mistake, which could become an additional source of stress. This factor was designated as "Limited search for socially significant assistance." The factor 2 content was determined by the coping strategies "Antisocial actions", "Indirect actions", and "Aggressive actions". These coping strategies were associated with the abuse of actions to create one's superiority over others, to create conditions for using the resources of colleagues for one's purposes. This factor was designated as "Destructive methods of gaining an advantage over others". The positive pole of factor 3 was determined by the coping strategies "Assertive actions", and the negative pole "Avoidance". These coping strategies were associated with one's confidence and readiness to take responsibility. However, unlike assertive actions in group 2, where they may have been part of the interaction to overcome the consequences of stress factors. In group 1 assertive actions were possibly a component of self-affirmation. This factor was designated "Self-affirmation as a demonstration of decent behavior".

It should be noted that the group 1 participants showed a tendency where destructive ways of gaining an advantage over others rather increased mental trauma than contributed to protection from the effects of stress factors. In this group, the factor "Self-affirmation as a demonstration of decent behavior" to a certain extent contributed to the reduction of "Disruption of behavioral regulation" ($p = 0.05$) and "Likelihood of committing suicide attempts" ($p = 0.05$). Indeed, the self-confidence and assertiveness that characterized the participants in this group may have been characteristics that allowed them to control themselves in a stressful situation.

In group 2, the identified tentative three-factor structure of coping strategies described 69.43% of the variance in features. The content of factor 1 included the coping strategy "Seeking social support," "Social joining," and "Assertive actions." These strategies emphasized the importance of seeking external resources while considering the interests of fellow soldiers to mitigate the effects of combat stress factors. We referred to this factor as "Socially significant methods of attracting external resources." The content of factor 2 was determined by the coping strategy "Indirect actions" and "Antisocial actions". This factor was designated as "Socially inconsistent methods of attracting external resources" and had a statistically significant negative relationship with the consequences of the stress experienced: PTSD indicators ($p = 0.01$) and all maladaptation indicators ($p = 0.01$). Factor 3 was associated with the coping strategy "Instinctive actions" and "Avoidance". This factor was designated as "Uncertainty in one's resources and careful attitude towards them". The main goal of the described factor structure of coping strategies in group 2 was associated with to attract additional resources and avoid unfavorable circumstances.

In studies that examined the factor structure of coping strategies, three main factors have often been identified: problem-focused coping, getting social support, and avoidance [21,22]. However, we found that all mobilized servicemen had a deficit structure of coping strategies. Moreover, married servicemen had a desire to obtain additional external resources by any means to overcome the effects of combat stress factors, as well as a careful attitude towards their resources. It can be assumed that married servicemen were

more oriented towards interaction to overcome stressful situations, while unmarried servicemen were forced to rely more on their strength.

It is a common assertion that the effectiveness of stress attenuation is limited because it is often not possible to avoid stressors, and avoiding or minimizing stress can lead individuals to miss opportunities for performance and growth. Thus, during stressful situations, a more efficacious approach is to optimize stress responses (i.e., promote adaptive, approach-motivated responses) [23]. Another study concluded that an avoidant-focused coping style acts as a vulnerability factor for PTSD symptoms, whereas hardiness acts as a resilience factor against symptom development [24]. Thus, when interpreting coping strategies such as “Cautious actions” and “Instinctive actions”, it is necessary to take into account their role in the overall structure of coping and how personal resources for coping relate to the strength of stressful impacts. Our results partially confirm the conclusions that: (1) a robust latent variable named personal resources (indicated by social support, unit cohesion, and trait resilience) was negatively associated with PTSD severity; (2) personal resources were negatively associated with negative posttraumatic cognitions; (3) negative posttraumatic cognitions fully mediated the association between personal resources and PTSD severity [25].

Study limitations

This study certainly had limitations. 1) The study served as a generalization of experiences from the rehabilitation center focused on the psychological recovery of military personnel following participation in hostilities. This significantly influenced the amount of available empirical data (including sample size and psychodiagnostic survey methods), the study's structure, and the mathematical processing methods used. 2) The research was exploratory, aimed at generalizing the outcomes of surveys of military personnel involved in the psychological recovery program, as well as identifying potential hidden resources and methods for preventing PTSD and maladjustment. 3) Information on the implementation of a formal translation or back-translation protocol for SACS, MSCR-PTSD, and DEQ is unavailable. The authors of the article did not pilot test or validate the design of the psychodiagnostic instrument used in this study; we used data from the Ukrainian sources. We are not aware of any published or internal references that describe the psychometric properties of the Ukrainian versions of these instruments in detail. 4) The risk of false positive results was increased by the fact that no correction for multiple comparisons was applied. 5) Data on resources for building resilience against combat stress factors was limited among mobilized military personnel who did not choose military careers and received very brief training. 6) Existing data on family support for servicemen relates to scenarios where families are safe, a situation not observed in Ukraine, creating an ambivalent role for the family that can serve as both a source of anxiety and a resource. 7) The research was conducted on a sample of servicemen who participated in the psychological recovery program, specifically those exhibiting signs of mental and physical exhaustion, PTSD symptoms, and maladjustment. Consequently, the results related to the characteristics of coping structure deficits in both established variants—typical for married and single mobilized servicemen—should be specifically attributed to the corresponding samples. As a result, it is inappropriate to extend the findings of this study to servicemen who cope more effectively with the impact of combat stress. 8) The results obtained possess low practical value (Cohen’s d); however, they allow us to formulate valuable hypotheses for further research. For example, PTSD prevention may be linked not only to direct family support but also to shared life experiences such as joint problem solving, which remain relevant even in the absence of direct family support, highlighting its value. Additionally, an intriguing hypothesis is the assessment of individual coping: its position within the overall coping strategy framework (which may exhibit signs of collective or individual culture) and the general nature of this structure concerning the situation (for instance, a deficiency in the overall structure indicating a reliance on external assistance). 9) Female military personnel were excluded from this study because less than 0.5% of female combatants participated throughout the duration of the psychological recovery program. 10) The participant sample consisted solely of enlisted military personnel and sergeants; officers did not take part in this study. 11) This study faced limitations due to the brief duration of the psychological recovery program and the need to avoid overloading participants with additional activities that did not align with the program’s objectives, which limited the application of research methods and the repeatability of the survey, among other factors. Finally, the current study was constrained by the absence of an active comparison condition and a longitudinal follow-up. Thus, by summarizing some of the outcomes from the rehabilitation center's work on the psychological recovery of military personnel following military operations, we aimed to attract the scientific community's attention to addressing new urgent challenges in military medicine and psychology, particularly in the unique area of psychological support for mobilized military personnel.

CONCLUSION

The pre-war experience of using coping strategies by married and unmarried mobilized military personnel was a rather weak preventive measure for counteracting combat stressors, and not a sufficient barrier to the emergence of PTSD symptoms and maladaptation manifestations Assertive actions could be associated as a preventive factor for the negative consequences of combat stress only in married military personnel. Perhaps this was due to their structure of coping strategies, in which assertive actions were an integral part of interaction, while in unmarried servicemen it was self-affirmation. The creation of a wide range of social relationships had a positive impact on the preventive power of social interaction, which helped to overcome the consequences of PTSD and social maladaptation manifestations for both groups of mobilized military personnel. Aggressive actions, which became a source of additional stress and a method of responding to stress, were linked to higher PTSD scores.

Psychological support of the family among married mobilized servicemen was associated with the formation of resilience to the action of combat stress factors. In addition, compatible actions of married servicemen in stressful situations due to feedback formed an adequate stress response, reduced the likelihood of meta-experiences. Unmarried mobilized servicemen did not have family experience, so their coping strategies mainly came down to reacting and individual resilience to combat stress factors.

Married and unmarried mobilized servicemen had a deficit structure of coping strategies characteristic of war. They realized that their resilience to the effects of combat stress factors depended on the possibility of receiving help from others. And if married mobilized servicemen were more inclined to exercise caution when spending their resources, then unmarried servicemen tried to use self-assertive behavior as a method to raise their authority and thus attract additional external resources.

Conflicts of interest and sources of funding

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Authors' contribution

Conceptualization, Y.M., and N.Ku.; methodology, N.Kr.; software, V.F., and V.K.; validation, Y.M., O.H., and N.Ku.; formal analysis, Y.M.; investigation, N.Kr.; resources, V.F., and O.H.; data curation, Y.M., and N.Ku.; writing—original draft preparation, Y.M.; writing—review and editing, N.Ku., and Y.M.; visualization, V.K., and O.H.; supervision, N.Kr., and V.K.; project administration, N.Ku.; funding acquisition, V.F. All authors have read and agreed to the published version of the manuscript.

Ethics approval and consent to participate

The study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Ethics Committee of the National Academy of the National Guard of Ukraine, Kharkiv, Ukraine (protocol code 2024/12 and date of approval 24/09/2024).

Patient consent for publication

Informed consent was obtained from all subjects involved in the study.

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